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**Date:** Monday, September 24, 2001**No. of pages (including cover):** 20**Matter No.:** 09507112

**TO**  
  
**FROM**

Examiner Hines  
Facsimile No.: 703-308-4242  
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Phone No.: 713-651-5407  
User ID: 1768 Floor: 38

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SEP 24 2001  
GROUP 1600

**COMMENTS**

Examiner Hines,

Please see the enclosed amendment which was filed on July 30, 2001.

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Atty Docket No.: P00965US0  
Inventor: James M. Musser, et al.

Application No.: 08/160,965  
Title: VACCINES CONTAINING CYSTEINE PROTEASE AND METHODS TO PROTECT  
AGAINST GROUP A STREPTOCOCCI

**Documents Filed:**

Amendment Transmittal (1 page)  
Amendment under 37 CFR 1.116 (15 pages)  
Fee Transmittal (1 page)  
Return Post Card  
Deposit Account 08-2375 in the amount of \$1350.00

Via: Express Mail EK 102717715US  
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Date: July 30, 2001

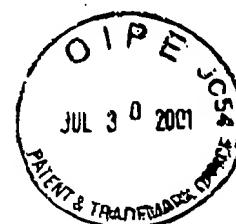
Atty Docket No.: P00965US0  
Inventor: James M. Musser, et al.

BAYLOR

Application No.: 08/160,965  
Title: VACCINES CONTAINING CYSTEINE PROTEASE AND METHODS TO PROTECT  
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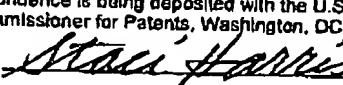
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Via: Express Mail EK 102717715US  
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Date: July 30, 2001

<b>AMENDMENT TRANSMITTAL LETTER</b>				Docket No. P00965US0	
Application No. 08/160,965	Filing Date December 2, 1993		Examiner J. Hines		Group Art Unit 1645
Applicant(s): James M. Musser and V. Kapur					
Invention: VACCINES CONTAINING CYSTEINE PROTEASE AND METHODS TO PROTECT AGAINST GROUP A STREPTOCOCCI					
<b>TO THE COMMISSIONER FOR PATENTS</b>					
Transmitted herewith is an amendment in the above-identified application.					
The fee has been calculated and is transmitted as shown below.					
<b>CLAIMS AS AMENDED</b>					
Total Claims	Claims Remaining After Amendment	Highest Number Previously Paid	Number Extra Claims Present	Rate	
55	- 20 =	35	x 18.00	630.00	
Independent Claims	12	- 3 =	9	x 80.00	720.00
Multiple Dependent Claims (check if applicable) <input type="checkbox"/>					
Other fee (please specify):					
<b>TOTAL ADDITIONAL FEE FOR THIS AMENDMENT:</b> 1350.00					
<input checked="" type="checkbox"/> Large Entity <input type="checkbox"/> Small Entity					
<input type="checkbox"/> No additional fee is required for this amendment.					
<input checked="" type="checkbox"/> Please charge Deposit Account No. 06-2375 in the amount of \$ 1350.00 A duplicate copy of this sheet is enclosed.					
<input type="checkbox"/> A check in the amount of \$ _____ to cover the filing fee is enclosed.					
<input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge and credit Deposit Account No. 06-2375 as described below. A duplicate copy of this sheet is enclosed.					
<input checked="" type="checkbox"/> Credit any overpayment.					
<input checked="" type="checkbox"/> Charge any additional filing or application processing fees required under 37 CFR 1.16 and 1.17.					
 Melissa W. Acosta Attorney Reg. No.: 45,872					
Dated: July 30, 2001					
I hereby certify that this correspondence is being deposited with the U.S. Postal Service as Express Mail, Airbill No. EK102717715US, in an envelope addressed to: Commissioner for Patents, Washington, DC 20231, on the date shown below.					
Dated: July 30, 2001 Signature:  (Stacy Harris)					

Application No. 08/160,965

Docket No. HO-P00965US0

Am dt  
4010 (NG)

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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

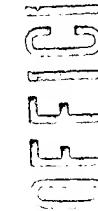
In re Patent Application of:  
James M. Musser and V. Kapur

Application No.: 08/160,965

Group Art Unit: 1645

Filed: December 2, 1993

Examiner: J. Hines

For: VACCINES CONTAINING CYSTEINE  
PROTEASE AND METHODS TO PROTECT  
AGAINST GROUP A STREPTOCOCCIRunda  
10/3/01AMENDMENT UNDER 37 CFR 1.116

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SEP 21 2001

GROUP 1600

Box AF  
Commissioner for Patents  
Washington, DC 20231

Dear Sir:

In response to the Office Action dated May 30, 2001, please amend the above-identified U.S. Patent application as follows:

In the Claims

Please cancel claim 3. Please substitute the below amended claims for claims 1 and 4-6.

## 1. (Amended four times) A vaccine comprising:

a physiologically acceptable non-toxic vehicle containing a purified non-proteolytic cysteine protease, which confers immunity to a mammal against Group A streptococcal infection, wherein said cysteine protease comprises at least one amino acid substitution and said amino acid substitution occurs at the amino acid position selected from the group consisting of Lys145, Gln185, Cys192, His340, Asn356 and Trp357.